

BOAT FEE REVENUES & EXPENDITURES

Fiscal Year 2017 Report

.08

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Department of Natural Resources
Conservation and Recreation Division
December 31, 2017
Chuck Gipp, Director



EXECUTIVE SUMMARY

In 2005, the Iowa General Assembly amended Iowa Code Chapter 462A.52 to increase boat registration fees for all types of watercraft, to change the registration cycle, and to require the Iowa Department of Natural Resources (DNR) to report on the increased revenues due to the fee increase and how they are expended. This is the eleventh such annual report and includes data for FY17 compared to the base year in 2006.

The increased fees are required to be used to control the spread of aquatic invasive species, the administration and enforcement of navigation laws, and water safety education. The mandate required the Department to submit a report to the General Assembly by each year beginning in 2007. It was directed that the report contain summaries of the activities of the Department for the following:

1. Administering and enforcing programs to control aquatic invasive species
2. Administering and enforcing navigation laws and water safety
3. Amount of revenues collected as a result of fee increases
4. Detail of how the boat fee revenues were expended
5. Amount and source of all other boating related funds expended

Revenues: Comparisons and projections

When boat fees were increased in the 2005 legislative session, the registration period also was changed from two years to three years. For planning purposes, the Iowa Department of Natural Resources now plans revenues over three years.

Table 1 Previous Revenues Under Two-year Registration Periods

	FY03	FY04	FY05	FY06
Boat fees	\$2,563,493	\$372,481	\$2,611,295	\$387,908
Federal match	\$1,298,443	\$1,296,070	\$1,411,585	\$1,533,266
Total Revenues	\$3,861,936	\$1,668,551	\$4,022,880	\$1,921,174

Boat fees generated an average of \$1,483,794 per year (calculated from Table 1 above) during the last four years of the two-year registration cycle.

Table 2 Collected Revenues Under Three-year Registration Period

	FY15	FY16	FY17	3-Years of Revenue
Boat fees	\$544,541	\$6,849,215	\$1,146,265	\$8,540,021
Federal match	\$1,370,161	\$1,311,291	\$403,667	\$3,085,119
Total Revenues	\$1,914,702	\$8,160,506	\$1,549,932	\$11,625,140

Looking at the past three years of collected annual revenue (FY15-FY17) the average increase of boat fees is \$1,362,879 in additional state revenue per year over the base year. Federal funds include the safety and education portion and motorboat access portion from the Federal Aid in Sport Fish Restoration program and Aquatic Invasive Species matching funds.

Expenditures: Comparisons and Projections

The final year under the previous fee structure, FY 2006, is the baseline year to measure future years' expenditures. Note that part of the seasonal Water Patrol Officer costs came from the Marine Fuel Tax fund in FY17 at a cost of \$138,178, and \$135,621 was expended from the same fund for navigational safety patrol boats, for an additional \$104,438 for navigation enforcement and boating safety this year.

Table 3 General Expenditure Categories

	Base FY06	FY17
Navigation Enforcement and Boating Safety	\$1,995,996	\$2,686,931
Boat infrastructure maintenance/mgmt.	\$749,406	\$538,223
Aquatic Invasive Species	\$164,556	\$523,098
Water Trails and Dam Safety	\$10,410	\$185,759
Total Expenditures	\$2,920,368	\$ 3,934,011

More detailed reporting of program-level expenses follow in this report.

AQUATIC INVASIVE SPECIES EXPENDITURES

The Iowa Department of Natural Resources Aquatic Invasive Species Program (DNR-AIS) is responsible for monitoring and managing aquatic invasive species (AIS) in Iowa. Goals of the DNR-AIS as stated in the “Plan for the Management of Aquatic Nuisance Species in Iowa” are:

- I. Minimize the risk of further introductions of AIS into the state of Iowa.
- II. Limit the spread of established populations of AIS into uninfested waters in Iowa.
- III. Eradicate or control to a minimum level of impact the harmful ecological, economic, social, and public health impacts resulting from infestations of AIS in Iowa.

Priority AIS in Iowa include zebra mussels (*Dreissena polymorpha*), Bighead Carp (*Hypophthalmichthys nobilis*), Silver Carp (*Hypophthalmichthys molitrix*), Eurasian watermilfoil (*Myriophyllum spicatum*), and brittle naiad (*Najas minor*).

This report reflects expenditures for FY17; however, seasonal staff and survey information is from the summer of 2017 (i.e., May through September). Actions utilized to detect, manage, and prevent the introduction and spread of AIS in Iowa in FY17 included employing seasonal staff, developing partnerships to coordinate AIS activities, increasing public awareness of AIS, managing AIS infestations, and monitoring AIS populations. Major accomplishments included the following.

- Employed 15 Seasonal Natural Resources Aides
- Conducted 5,974 watercraft inspections reaching over 17,000 people
- Conducted 380 angler interviews on 30 trout streams
- Supported 21 partnerships and cooperative projects
- Distributed signs, brochures, identifications cards, banners, posters, tattoos, maps, and regulations booklets
- Leased 5 billboards with AIS prevention messages on interstate and state highways
- Ran 150,000 video ads targeting water recreation user groups
- Used geo-fencing to target 405,000 ads to visitors at high use boat ramps
- Ran 86 television ads about AIS and the Iowa AIS Law
- Targeted water recreationists with AIS prevention messages boat ramp signs, print media, news releases, radio and television interviews, displays, and presentations
- Chemically treated 23 waterbodies with Eurasian watermilfoil, brittle naiad, parrot feather, or Brazilian waterweed
- Completed 75 full-lake vegetation surveys
- Surveyed vegetation at 149 access points on 43 lakes
- Surveyed adult zebra mussels in Clear Lake, Bluebill Lake, Blue Bit, Lake Cornelia, and the Spirit/Okoboji chain of lakes
- Placed zebra mussel veliger settlement samplers in lakes and reservoirs across the state
- Collected 59 water samples from 24 lakes and rivers and analyzed them for zebra mussel veligers
- Surveyed Asian carp and/or bigmouth buffalo populations 22 times in interior and border rivers
- Purchased supplies for DNR Fisheries management stations and hatcheries to prevent the spread of AIS during operations

Aquatic Invasive Species Program Personnel and Activities

A Natural Resources Biologist has coordinated the DNR-AIS program since 2000, and a permanent, full-time Natural Resources Technician was added in October 2006. Seasonal staff for 2017 consisted of 12 Natural Resources Aides who conducted watercraft inspections, 2 Natural Resources Aides who surveyed waterbodies for AIS across the state, and 1 Natural Resources Aide who provided field sampling assistance to the DNR-AIS. Lakeside Laboratory interns supported by a Dickinson Clean Water Alliance Grant and the Okoboji Protective Association assisted with watercraft inspections in Dickinson County in 2017. Watercraft inspectors discussed inspecting watercraft for AIS with operators from May through September 2017. They collected information on AIS presence and location, watercraft type and state of registration, number of people, last and next waterbody visited, and operator familiarity with Eurasian watermilfoil, brittle naiad, zebra mussels, Asian carp, and Iowa’s AIS Law. Trailer stickers reminding boaters to prevent the spread of AIS were given to each operator after inspection. The table below summarizes the watercraft inspection effort of the DNR-AIS in 2017 and prior to receiving boat registration funds in 2006 when 2-3 seasonal employees split their time between watercraft inspections and AIS surveys.

Table 4 Watercraft Inspection Summary

	2006	2017
Seasonal Employees	3 PT	12 FT
Watercraft Inspected	791	5,074
Personal Contacts	2,350	16,966
Waterbodies	16	51



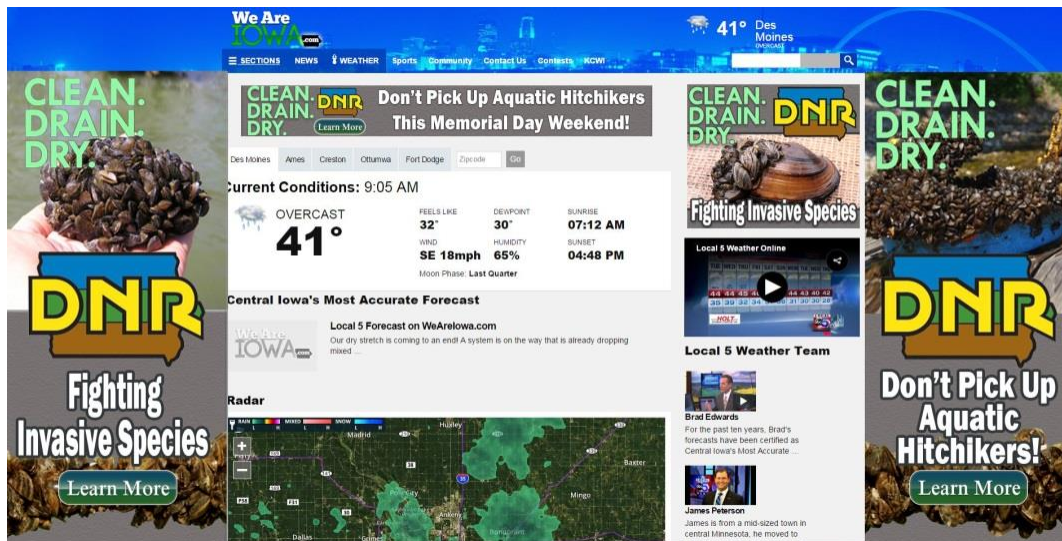
New Zealand mudsnails (*Potamopyrgus antipodarum*) have been found in Wisconsin; therefore DNR-AIS seasonal staff for the Decorah and Manchester areas interviewed Iowa trout stream anglers to gauge their knowledge of AIS. The seasonal staff conducted 380 interviews on 30 trout streams in 2017. Only 50% of those anglers were familiar with AIS or knew about the AIS Law, and only 23% were familiar with New Zealand mudsnails, which are prohibited AIS in Iowa.

DNR-AIS staff supported several partnerships and working groups in FY17:

- Aquatic Nuisance Species (ANS) Task Force
- ANS Task Force Communication, Education, and Outreach Committee
- Water Resources Reform and Development Act Asian Carp Report Committee
- National Asian Carp Control Strategies Workshop
- Asian Carp Carbon Dioxide Deterrent Coordination Team
- Mississippi River Basin Panel on ANS (Interim Chair of Prevention and Control Committee)
- Missouri River ANS Work Group
- Missouri River Basin Asian Carp Control Strategy Framework Coordination Committee
- Association of Fish and Wildlife Agencies (AFWA) Invasive Species Committee (Vice Chair)
- Midwest Invasive Plant Network (Executive Board Member)
- Midwest Aquatic Plant Management Society
- Upper Mississippi River Asian Carp Coordination Committee
- Upper Mississippi River Asian Carp Deterrent Strategy Team Member
- Upper Midwest Invasive Species Conference (Planning Committee Member)
- Missouri River Natural Resources Commission
- Mississippi Interstate Cooperative Resource Association
- Lock and Dam 14 Asian Carp Carbon Dioxide Deterrent Project Working Group
- Iowa Invasive Species Conference (Steering Committee Member)
- Iowa Noxious Weed Law Working Group
- Iowa State University Natural Resources Ecology and Management Outdoor Skills Committee
- Conservation Leaders for Tomorrow

Aquatic Invasive Species Outreach Materials

The DNR-AIS has different types of outreach materials targeting water recreationists in Iowa. Targeted internet videos (150,000), geofencing advertisements (405,000), and television ads (86) were used from the Memorial Day weekend through Labor Day in 2017 to provide messages alerting boaters about the AIS Law and how to “Clean, Drain, Dry” boats and equipment when leaving a water access. “Clean, Drain, Dry” was also the message displayed during two WeAreIowa Local 5 News weather page takeovers.



The DNR-AIS also provided information through 5 billboards posted along interstate and state highways near high-use and infested waterbodies in Iowa. Banners with billboard images were also made available to be displayed near boat ramps in areas of the state without billboards and at outdoor events. Signs emphasizing the AIS Law continued to be posted at all boat access sites in 2017. In addition to information available on the Iowa DNR website, the following informational materials were available during watercraft inspections, at all Iowa DNR Fisheries regional and field offices, during the Iowa State Fair, at state and county parks and nature centers, and at presentations and field days.

- Protect Our Waters brochure
- Protect Our Waterfowl Habitat brochure
- AIS identification cards
- Keep a Lookout for New Invasive Aquatic Plants in the Midwest flyer
- 2017 Iowa Fishing Regulations booklet
- Handbook of Iowa Boating Laws and Responsibilities
- Stop Aquatic Hitchhikers towels, koozies, sun kits
- Spirit Lake, East Okoboji Lake, West Okoboji Lake boaters' maps with car wash locations



News releases targeted statewide audiences regarding AIS updates in Iowa and April as Invasive Species Awareness Month, and before high-use boating events such as Memorial Day and July 4th weekends. A DNR-AIS staff person was on the CW Iowa live morning show twice to discuss AIS in Iowa. DNR-AIS and Fisheries staff were also interviewed throughout the year for radio programs, television stories, and newspaper articles regarding AIS distribution, identification, management, and prevention. Facebook postings in FY17 also included AIS information and the “Clean, Drain, Dry” message.

DNR-AIS staff participated in fishing and outdoor events in FY17 to spread the AIS message and also gave presentations about AIS in a variety of settings. Exhibits at the 2017 Iowa State Fair included live Asian Carp.

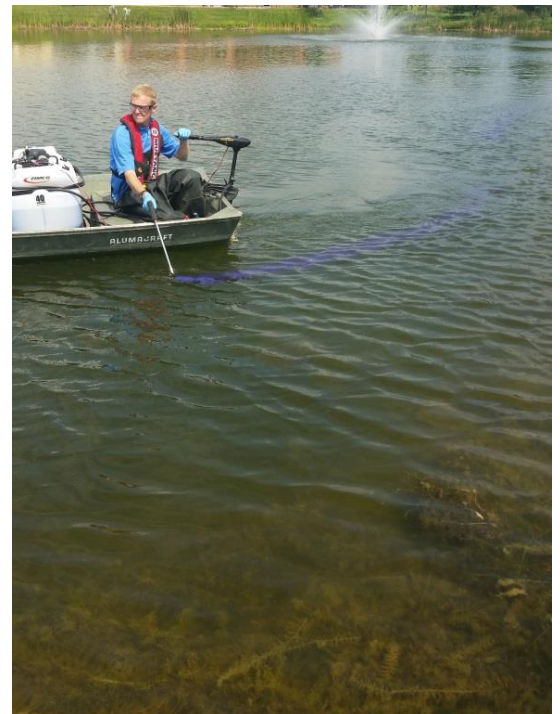
- Iowa DNR Fisheries Seasonal Aides, Iowa DNR Water Patrol Officers
- Iowa Invasive Species Conference
- Taking the Road Less Traveled: Career Conferences for Girls
- Outdoor Journey for Girls Workshops
- Becoming an Outdoors Woman Workshop
- ISU Natural Resources Ecology and Management Outdoor Skills Weekend
- Story County Wild Women of the Woods Weekend
- ISU Student Chapter of the American Fisheries Society Skills Event
- Iowa Children's Water Festival
- Ding Darling Day at the National Mississippi River Museum and Aquarium
- Central Iowa Anglers Meeting

Data collected during watercraft inspections indicates that public awareness of AIS in Iowa has increased as a result of DNR-AIS outreach activities. Fifty-one percent of boaters interviewed in 2001 said that they were familiar with invasive species. That number increased over the years and was 93% in 2017. Knowledge of the AIS Law has also increased from a low of 22% in 2004 to 90% in 2017. In addition to being aware of the AIS Law in general, 84% of the boaters in 2017 knew of the prohibition on transporting all aquatic vegetation and 91% knew about the draining requirements.

Aquatic Invasive Species Management and Monitoring

DNR Fisheries staff cooperated with DNR-AIS staff to chemically treat 21 brittle naiad (BN) and Eurasian watermilfoil (EWM) infestations in 2017.

- Blue Pit (Cerro Gordo County), EWM
- Brushy Creek Lake (Webster County), EWM
- Crawford Creek Lake (Ida County), BN
- George Wyth Lake (Black Hawk County), EWM
- Great Western Pond (Carroll County), BN
- Grundy County Lake (Grundy County), BN
- Hannen Lake (Benton County), BN
- Jennett Pond (Story County), EWM
- Lake Iowa (Iowa County), BN
- Little Sioux Park Pond (Woodbury County), BN
- Mile Hill Lake (Mills County), EWM
- Moorehead Park Pond (Ida County), BN
- Nelson Park Lake (Crawford County), BN
- Nine Eagles (Decatur County), BN
- Pleasant Creek (Linn County), BN
- Rodgers Lake (Benton County), BN
- Slip Bluff (Decatur County), BN
- Ted Johnson Pond (Marion County), EWM
- Willow Lake (Harrison County), BN
- Wilson Grove Lake (Bremer County), EWM
- Yellow Smoke Lake (Crawford County), BN



Natural Resource Aides completed 75 full-lake vegetation surveys in June, July, and August 2017 to detect new AIS infestations and monitor managed AIS infestations. Natural Resources Aides also conducted 149 access point surveys at 43 lakes around the state during the summer of 2017. Eurasian watermilfoil was discovered at George Wyth Lake during an access point survey. Fisheries and wildlife biologists and county conservation board staff also monitored aquatic vegetation in their areas during management activities.



One new infestations of Eurasian watermilfoil (EWM) was discovered in Iowa in 2017. Two Species unknown in Iowa were identified in 2017: parrot feather (*Myriophyllum aquaticum*) (PF), Brazilian waterweed (*Egeria densa*) (BW). Treatment is underway at both locations and monitoring will continue in 2018.

- George Wyth Lake (Black Hawk County), EWM
- Ames Private Pond (Story County), BW
- Meyer Property Pond (Des Moines County), PF

Signs are posted at all AIS-infested waterbodies alerting the public about the species present and how to prevent their spread. Eurasian watermilfoil has been identified in 51 waterbodies, including private ponds, in Iowa since 1993, and brittle naiad has been identified in 58 waterbodies since 2003.

The following interior lakes in Iowa have known infestations of zebra mussels.

- Bluebill Lake (Cerro Gordo County), 2012
- Blue Pit (Cerro Gordo County), 2016
- Clear Lake (Cerro Gordo County), 2005
- East Okoboji Lake (Dickinson County), 2012
- Lake Cornelia (Wright County), 2014
- Lower Gar Lake (Dickinson County), 2013
- Minnewashta Lake (Dickinson County), 2013
- Spirit Lake (Dickinson County), 2012
- Upper Gar Lake (Dickinson County), 2012
- West Okoboji Lake (Dickinson County), 2013



DNR-AIS and DNR Fisheries staff placed zebra mussel settlement samplers in additional lakes and reservoirs throughout Iowa in 2017 to monitor for early detection of zebra mussels. No new zebra mussel infestations were discovered from settlement sampler monitoring in 2017.

DNR-AIS staff collected water samples for zebra mussel veliger analysis from the following lakes and rivers in 2017 in addition to the lakes infested with zebra mussels:

- Big Creek Lake (Polk County)
- Blue Pit (Cerro Gordo County)
- Briggs Woods Lake (Hamilton County)
- Brushy Creek Lake (Webster County)
- Carter Lake (Pottawattamie County)
- Cedar River (Linn County)
- Don Williams Lake (Boone County)
- Lake Cornelia (Wright County)
- Lake Hendricks (Howard County)
- Lake MacBride (Johnson County)
- Lake Red Rock (Marion County)
- Little Sioux River (Dickinson County)
- Little Wall Lake (Hamilton County)
- Meyer Lake (Winneshiek County)
- Rathbun Lake (Appanoose County)
- Roberts Creek Lake (Marion County)
- Saylorville Lake (Polk County)
- Sunken Lake (Dickinson County)
- Volga Lake (Fayette County)
- Welch Lake (Dickinson County)

The DNR-AIS is intensively monitoring three of the above lakes to determine if they have established populations of zebra mussels after veligers were found in water samples.

Zebra mussels were discovered on a boat that had been transported from the Mississippi River and moored on Rathbun Lake in 2007. DNR-AIS and DNR Fisheries staff found no juvenile or adult zebra mussels in the lake at that time or during subsequent surveys. Very low numbers of veligers were detected in water samples collected from 2008 through 2011; however, no veligers were collected from 2012 through 2014. Very low numbers of veligers were again found in water samples in 2015 and 2016 but none in 2017. Zebra mussel veligers were first found in Brushy Creek Lake in 2015; however, DNR-AIS staff have found no adults in the lake during hard substrate sampling. Zebra mussel veligers were found in a water sample collected from Carter Lake by Nebraska Game and Parks Commission (NGPC) staff in 2017. NGPC and DNR-AIS staff found no adult zebra mussels during subsequent hard substrate sampling.

Bighead Carp and Silver Carp have been reported in increasing numbers throughout the Mississippi and Missouri Rivers and their tributaries in Iowa since the mid-2000s. DNR-AIS staff surveyed Bighead Carp, Silver Carp, and Grass Carp (*Ctenopharyngodon idella*) in the Des Moines, Skunk, Cedar, Iowa, and Maquoketa Rivers to monitor the upstream advance of their populations and to monitor for evidence of reproduction. DNR-AIS staff also continued to monitor the condition of bigmouth buffalo in areas of the Des Moines River with and without Bighead and Silver Carp to determine the impacts of Asian carp on this native plantivore. An Asian carp research project at Iowa State University (ISU) funded by DNR-AIS and the U.S. Fish and Wildlife Service began in 2013 and will continue through 2018. The project is evaluating Asian carp population characteristics, dynamics, and reproduction in the Mississippi, Des Moines, Skunk, Iowa, Cedar, Rock, and Maquoketa Rivers. Egg, larval, and adult Asian carp were captured each year from 2014 through 2016 in the Cedar, Iowa, Skunk, Des Moines and Mississippi rivers. Data from 2017 has not been analyzed to date. Bighead, Silver, and Grass Carp reproduction had not been documented in Iowa prior to the study



Table 5 Aquatic Invasive Species Expenditures

	FY06	FY17
Personnel	\$85,234	\$321,084
Travel Expenses	\$4,915	\$6,239
State Vehicle Operation	\$3,281	\$11,355
Office Supplies	\$399	\$0
Facility Maintenance Supplies	\$26	\$11,615
Equipment Maintenance Supplies	\$2,936	\$3,858
Ag Supplies	\$42,751	\$41,325
Other Supplies	\$100	\$7,002
Printing	\$477	\$500
Uniforms	\$455	\$1,392
Postage	\$536	\$568
Communications	\$651	\$1,249
Utilities	\$0	\$159
Professional and Scientific Services	\$0	\$51,295
Outside Services	\$595	\$870
Advertising and Publicity	\$11,390	\$19,492
Reimbursement	\$0	\$24
Government Transfer Other Agencies	\$0	\$15
Equipment	\$1,042	\$5,813
IT Equipment and Software	\$0	\$2,547
Other Expenses and Obligations	\$0	\$2,000
Indirects	\$9,768	\$34,696
Total	\$164,556	\$523,098



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BOATING NAVIGATION ENFORCEMENT AND WATER SAFETY EXPENDITURES

During the summer months, conservation officers and seasonal water patrol officers around the state use a variety of enforcement techniques to keep Iowa waterways safe for all ages.

Several group enforcement efforts on Iowa's 19,000 miles of interior rivers are conducted annually and are known as river sweeps. This technique allows officers to start at a specific point and continue downstream contacting boaters and educating them about boating regulations and safety.



Boating While Intoxicated (BWI) enforcement is a focus every year for officers. Iowa participated in "Operation Dry Water" on June 30-July 2, 2017, which is a national campaign that emphasizes the dangers of boating and drinking.

More than 150 law enforcement officers participated in this three day event, contacting 5,808 boaters, performing safety equipment checks on 1,463 vessels and issuing 478 citations or warnings. Throughout the summer, a total of 37 BWI arrests were made by various officers.

Conservation officers provide boating education programs to various groups throughout the year. Two hundred Seventy-five programs were presented to students about boating safety in all situations, including boating safety while waterfowl hunting. Approximately 5,242 students participated in these programs.



Seasonal Water Patrol Officers Program

The department receives approximately 130 applications each year from potential candidates who want to be a part of the seasonal water patrol officer (WPO) program. The WPO program has been in effect since the 1980s, and allows individuals the opportunity to work for the Law Enforcement Bureau while performing on-the-water education and navigation enforcement.

The seasonal water patrol officers assist full time officers in the enforcement of all fishing and navigation activities across Iowa. This program helps train future full time officers. Currently, almost half of the DNR conservation officers started their careers as seasonal water patrol officers.



In 2006, the department employed 22 seasonal water patrol officers. In FY2017, the department had 29 WPOs on the books at a total cost of \$273,798. This fiscal year, \$138,178 was used from the Marine Fuel Tax fund to pay for a portion of the total cost of the WPOs. (See Addendum B, page 26).

Table 6 Law Enforcement Boating Activities (2017)

Calendar Year*	Totals
Navigation Contacts	34,803
Navigation Citations	1,955
Special Events Patrolled	145
Accident Investigations	40
Boat Iowa Classes Taught	3
Boater Education Hours	2,942
Navigation Enforcement Hours	46,830



Boater Education

A boating education coordinator was hired in 2007, and the DNR now has a successful and proactive boater educational program. Nationally, boating law administrators and education coordinators focus on helping boaters understand and realize the importance of wearing life jackets. The Iowa legislature, after 5 years of effort, passed a child safety law in 2008 requiring children under 13 to wear a PFD in a moving vessel.



In FY17 the education program continued to focus on the importance of wearing life jackets and repainted the boat ramps in Iowa's state parks. The "Life Jacket Zone" message reminds boaters about the importance of wearing a life jacket while on the water. The DNR partnered with United States Power Squadron (USPS) members and United States Coast Guard Auxiliary (USCGA) members to assist with painting the 4'x 4' bright yellow and black stencil on over 20 boat ramps located in the parks.

The Boater Education program partnered with Honey Creek Resort and implemented a "life jacket" loaner program. The focus of the program was to make a variety of life jackets available to the public at no cost. The sizes of life jackets ranged from adult sizes all the way down to infant sizes. If a boater is without enough life jackets or the proper size of life jacket for each person on-board, jackets may be borrowed for the day. Over 200 lifejackets were loaned out to the public during this year at Lake Rathbun. The Boater Education program will continue to seek out additional pilot locations for the "life jacket loaner" program.

The ".08 Don't Go Overboard" campaign used posters, public service announcements and public outreach to educate boaters on the dangers of drinking and boating. Information was again publicized to make sure the public understands that the blood alcohol content level for drinking and boating is now the same as the level for operating a vehicle. The "Boating



While Intoxicated” campaign will continue to grow in the future to make the waters of Iowa safer for everyone.

The department also offers Boater Education Certificate classes to accommodate children between the ages of 12 and 18 who need the course to be able to operate motor boats. A total of 1,846 students received a certificate through classes, home study and internet courses offered in 2017.

The table below lists the FY 2017 operations costs for the boating navigation enforcement and safety education programs, with the baseline year of 2006 displayed. Note that part of the seasonal Water Patrol Officer costs came from the Marine Fuel Tax fund in FY17 at a cost of \$138,178 and \$135,621 was expended from the same fund for navigational safety patrol boats, for an additional \$104,438 for navigation enforcement and boating safety this year.

Table 7 Navigation Enforcement and Safety Education

	FY06	FY17
Personnel and Operations	\$1,366,842	\$1,942,928
Officer Retirements	\$73,986	\$109,318
Vehicles and Depreciation	\$204,916	\$214,237
In State Travel	\$54,495	\$7,793
Printing	\$60,274	\$0
Communications	\$30,509	\$27,115
Indirects	\$204,974	\$198,244
Totals	\$1,995,996	\$2,499,635

DNR Patrol Boats

The Law Enforcement Bureau divides the state into 5 districts and employs district supervisors to manage each area. The supervisors determine specific needs when purchasing large patrol boats in order to provide quality navigation enforcement and boating education in each area. Officers use several different types of vessels for navigation enforcement and boating education.

The Department currently has approximately 36 large patrol boats for navigation enforcement and boating education on Iowa’s waterways. The goal is to replace vessels at least every 5 years, and earlier if needed.



In FY 2017 the Department used \$104,438 from the Marine Fuel Tax fund and boat fund to supplement the purchase of large patrol boats for navigation enforcement.

Water Trails and Low-head Dam Public Hazard Program Expenditures

The Iowa DNR water trails and low-head dam public hazard program works statewide to ensure improved navigational safety on waterways throughout Iowa. Water safety education, establishment of a river mileage-based signage system and a hazard warning signage system, development of navigational maps, and advising placements and designs for water accesses and portage trails around dangerous dams are all components of the program mission.

Dozens of water trail construction projects, and planning and design meetings unfolded in fiscal year 2017. These project incorporated new techniques developed under statewide plans and are results of locally developed initiatives. Iowa DNR water trails and low-head dam public hazard programs are administered by the DNR rivers team under the Land and Waters Bureau. Navigation and water safety activities include:

- Plans, administers funds for, and places navigational signage, including mileage-based access numbers at landings, roadway signage leading people to boat accesses, dam warning signage, etc. via the water trails program.
- Plans, designs, and maintains warning signage and portage trails at DNR-owned low-head dams.
- Works with communities to install dam warning signage where dams have led to fatalities for recreational users. All users are considered, including walk-in anglers, powerboaters, tubers, and paddlers.
- Requires water trail developers to place, maintain, and update dam warning signage.
- Purchases and distributes educational flyers on canoe and kayak safety, low-head dam safety, participate in “Wear It” campaign targeting canoes and kayaks with promotional items purchased under operations budget.
- Advises fisheries, wildlife, county conservation, and municipal staff on boating access improvements, including boat ramps and canoe launches.
- Trains county conservation, DNR, and children’s camp staff in safely leading and teaching during canoe outings using American Canoe Association curriculum and the Rivers’ team certified ACA instructors.
- Works to reduce hazards of low-head dams with high death rates through management of mitigation projects.

The Iowa DNR encourages local ownership of water trails throughout Iowa that support education, navigation, and recreation. Technical assistance is provided to communities working to find solutions at aging dams, and provides funds for mitigating dam problems, solving safety hazards, fish passage, upstream flooding, and failure-related issues.

The river programs team serves a growing segment of Iowans – canoeists, kayakers, an innertubers, as well as more traditional recreational segments, including anglers and power boaters. National statistics show that canoeists and kayakers have a higher rate of death per capita compared to other boaters. Two brochures, “SmartStart for Safe Paddling” and “The Drowning Machine” continue to be disseminated to county



recorders, boat rental facilities, paddling clubs, local governments, and field staff. A new round of 10 water trail brochures is being produced, each with a similar look.

Project: Turkey River Park Access Near Elkader

Completion Date: 2017

DNR Involvement: Design, \$40,000 in funding, and construction assistance.



This multi-purpose river access project was developed in partnership with Clayton County Conservation. An eroding streambank (pictured) had wiped out the access multiple times, but remained an ideal location from a recreational standpoint. A low bench with a stone toe was built for improved stability prior to the addition of an access ramp, and doubles as an accessible area for angling. The re-formed bank was planted with native vegetation by volunteers

organized by Clayton County Conservation in June, 2017, and the water access ramp was completed in October 2017.

Staffing

The river programs coordinator is responsible for overall program direction, which in the current fiscal year involved statewide plan development, collaborating on river survey, assessment, and design work with DNR Engineering, and technical assistance provided to external dam owners. Previous duties of a technician included warning signage, launch, and portage trail development and maintenance, which have been folded into the other staff's duties. Half of one FTE's time focuses on leading river survey and assessment work at low-head dams. The other half of this position focuses on the Protected Water Areas program, a land conservation program along rivers, and is not within the purview of this report. A water trails coordinator contracts with local planners to lead planning efforts in coordination with state-level strategies and standards. An outreach coordinator plans events, maintains Web information, organizes training opportunities for trip leaders and rental personnel, conducts surveys and disseminates marketing materials and publications.



Iowa DNR owns or manages six major low-head dams on navigable streams. River programs staff updated signage plans according to the new hazard signage manual, installed signs, and maintain portages at these dams in fiscal year 2017.

Table 8 Expenditures for Water Trails & Dam Safety

	FY06	FY17
Personnel	\$7,572	\$145,914
Travel Expenses	\$1,038	\$8,554
Office Supplies & IT Hardware		\$4,538
Facility Maintenance Supplies		\$1,176
Equipment Maintenance		\$2,767
Other Supply (training programs equipment, safety education & outreach materials)		\$1,439

Print, binding, and publications	\$1,800	\$277
Uniforms		\$102
Communications		\$1,595
Rentals		\$216
Outside services		\$135
Reimbursement & ITS Reimbursement		\$420
Postage		\$166
Equipment Non Inventorial		\$776
Indirects		\$17,685
TOTAL	\$10,410	\$185,759

Paddlesports safety

The Rivers team offered a total of three “train the trainers” canoe and kayak courses for trip leaders, city parks and recreation staff, naturalists and other agency staff. This skills course responds to a need identified by agencies with canoe fleets that take groups on lakes and river. It provides consistent training for leading safe tours, developing risk management plans, and demonstrating appropriate canoeing skills. DNR rivers team staff also received American Canoe Association training from instructor trainers to update training credentials. The national “Wear It” campaign was supported at events throughout the year.



Water trails conservation crew

The rivers team manages projects that are developed and constructed by the water trails conservation crew, under contract with Conservation Corps, Iowa. The Corps’ work is funded separately under infrastructure appropriations. The water trails conservation crew works statewide, often work in remote areas where typical contractors could not. They construct portage trails and accesses, plant restoration projects, cut through log jams, and hang important navigational and warning signage in diverse settings.

Dam mitigation

Iowa DNR River program staff works with dam owners to retire or mitigate a variety of problems when a dam has safety hazard issues and fish passage problems. Oftentimes, federal funding is available for projects that involve fish passage, so a natural development is to solve multiple problems combined into a single project. Iowa DNR staff work with communities statewide to explore, analyze, or develop dam mitigation projects. Dam mitigation priority areas are shown on the map (Figure 1) below.

Mitigation projects completed in fiscal year 2017 include the Cornbelt Power Cooperative Dam, Mason City’s Willow Creek Dam (pictured right), and Willow Creek Dam #2. Delaware County Engineering also completed phase 1 of the Quaker Mill Dam mitigation project, which has removed the dam and constructed a new channel through a former lakebed. A second phase at Quaker Mill will divert flow into the channel after vegetative growth establishes in 2018.



2017 Project Highlight: Cornbelt Power Cooperative Dam Removal

Project: Cornbelt Power Cooperative Dam

DNR Involvement: Technical and \$125,000 in state cost share via RIFF.

The recirculating currents at Cornbelt Power Dam was responsible for fatalities of two brothers and their nephew in 1985, and formed a navigational barrier between Gotch State Park and Fort Dodge. Cornbelt Power Cooperative pursued a removal project due to liability concerns and vandalism to its adjacent transformer station thought in part to be related to attraction of visitors to the dam across private property.

Before and during construction:



After removal and site restoration:



Program outlook

Training programs will continue to focus on individuals who lead programs, safe livery operations, and increasing availability of American Canoe Association courses offered throughout the state will also be important responses to increasing interest in river recreation. Dam mitigation and water trail projects are ongoing, with plans for infrastructure development in place, but state granting is not available for 2017 due to reduction in RIFF appropriation.

See Figure 1 for locations of completed and future hazard mitigation projects via removal or modification at several dams.

Figure 1 Dam Mitigation Projects, Completed and Active

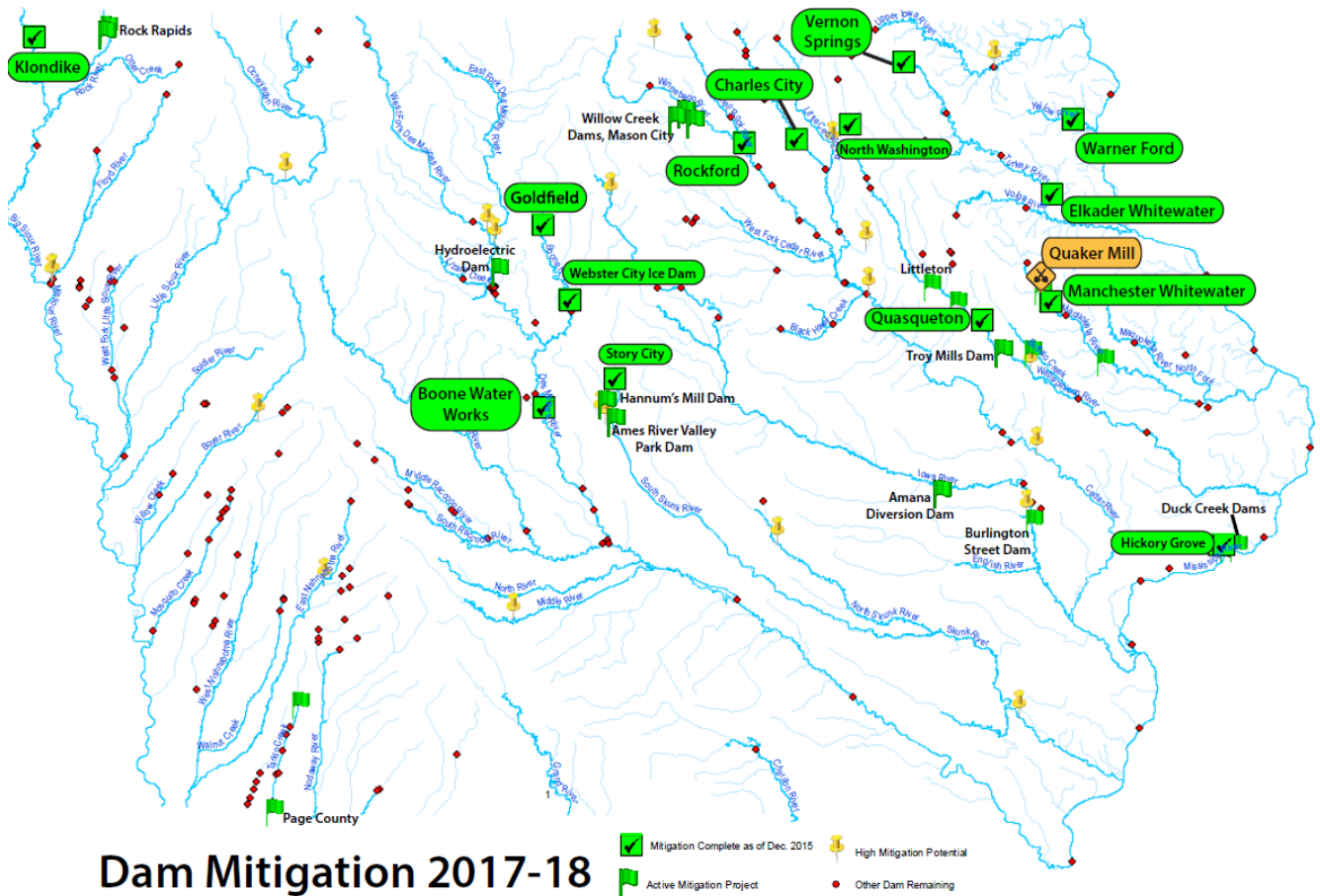


Figure 2 shows partnered dam mitigation projects that are ongoing, moving toward construction as of 2017, using past appropriations of RIIF funding.

Figure 2 Ongoing Partnered Dam Mitigation Projects, 2017

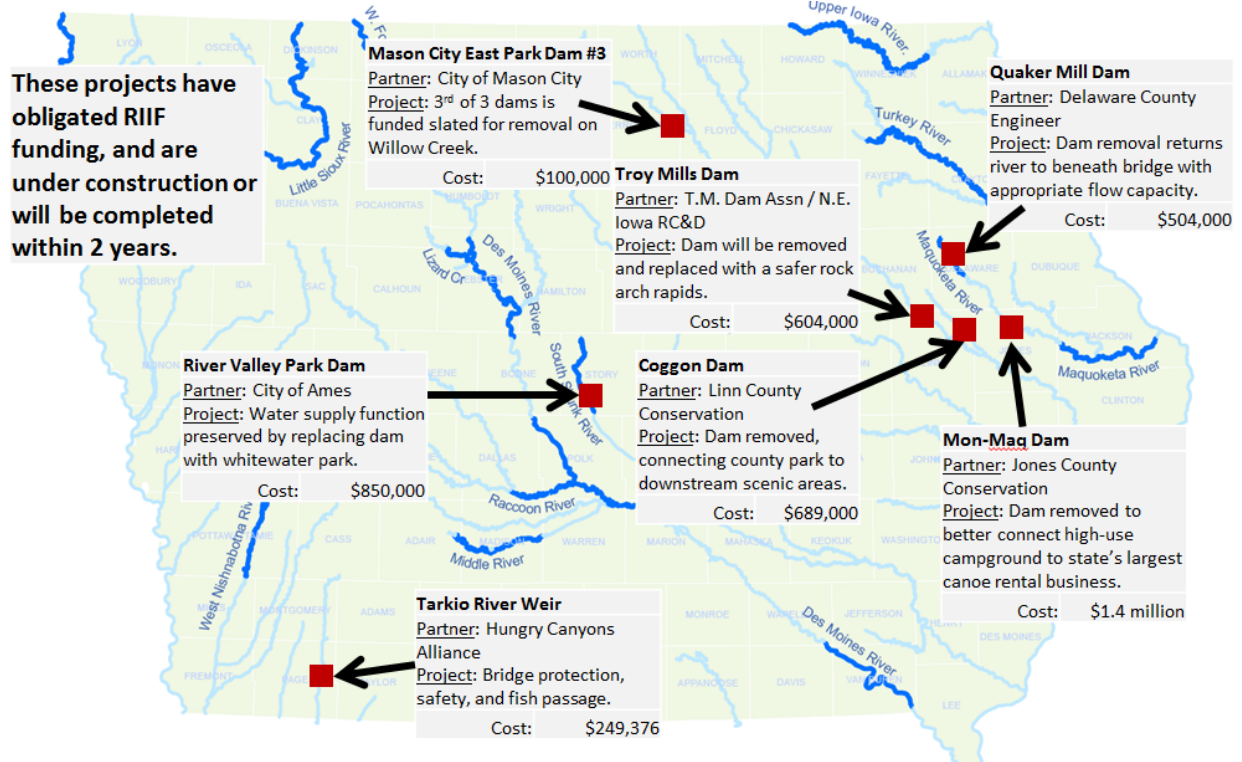
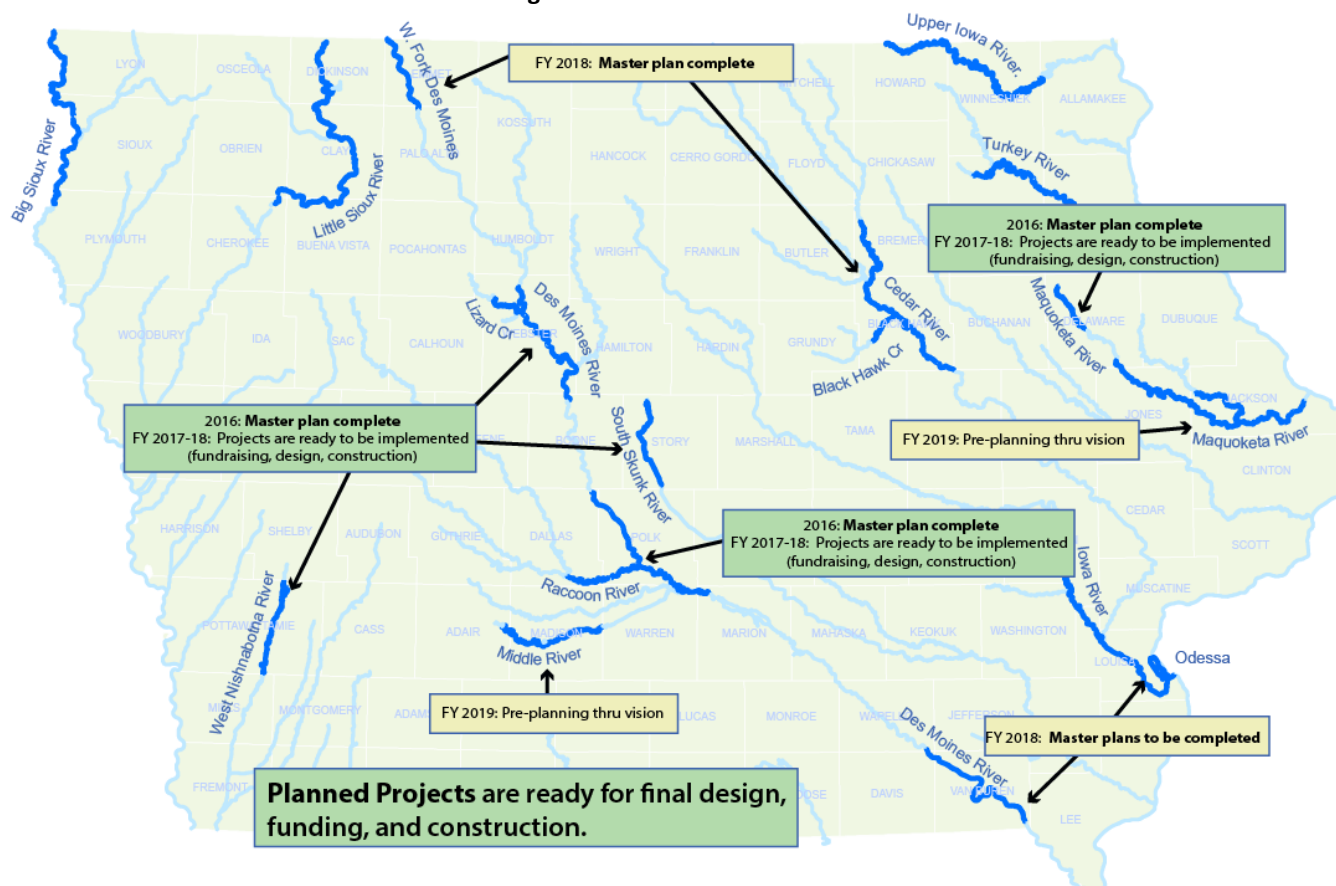


Figure 3 Outlook for Water Trails



As Figure 3 shows, six water trails have completed master plans in 2017. Should RIIF funds be available, projects will be eligible for grant funding upon plan completion (see Figure 4). Statewide plans completed in 2010 have led to a consistent and vetted local planning framework for water trails and low-head dams. For local entities, this will result in lower-maintenance projects with increased local ownership in water trails. Statewide, this will result in a more robust and easy-to-understand navigational system. As numbers of recreational users increase, increasing focus on managing the experiences for all Iowans – from young to old – will become more important than ever. It has also led to increased law enforcement and education needs related to interacting with private landowners and other users along navigable rivers. To handle increased use, all Iowans must learn to treat our waterways respectfully to avoid litter and obnoxious behavior.

Figure 4 Water Trail Projects Identified in Local Master Plans.

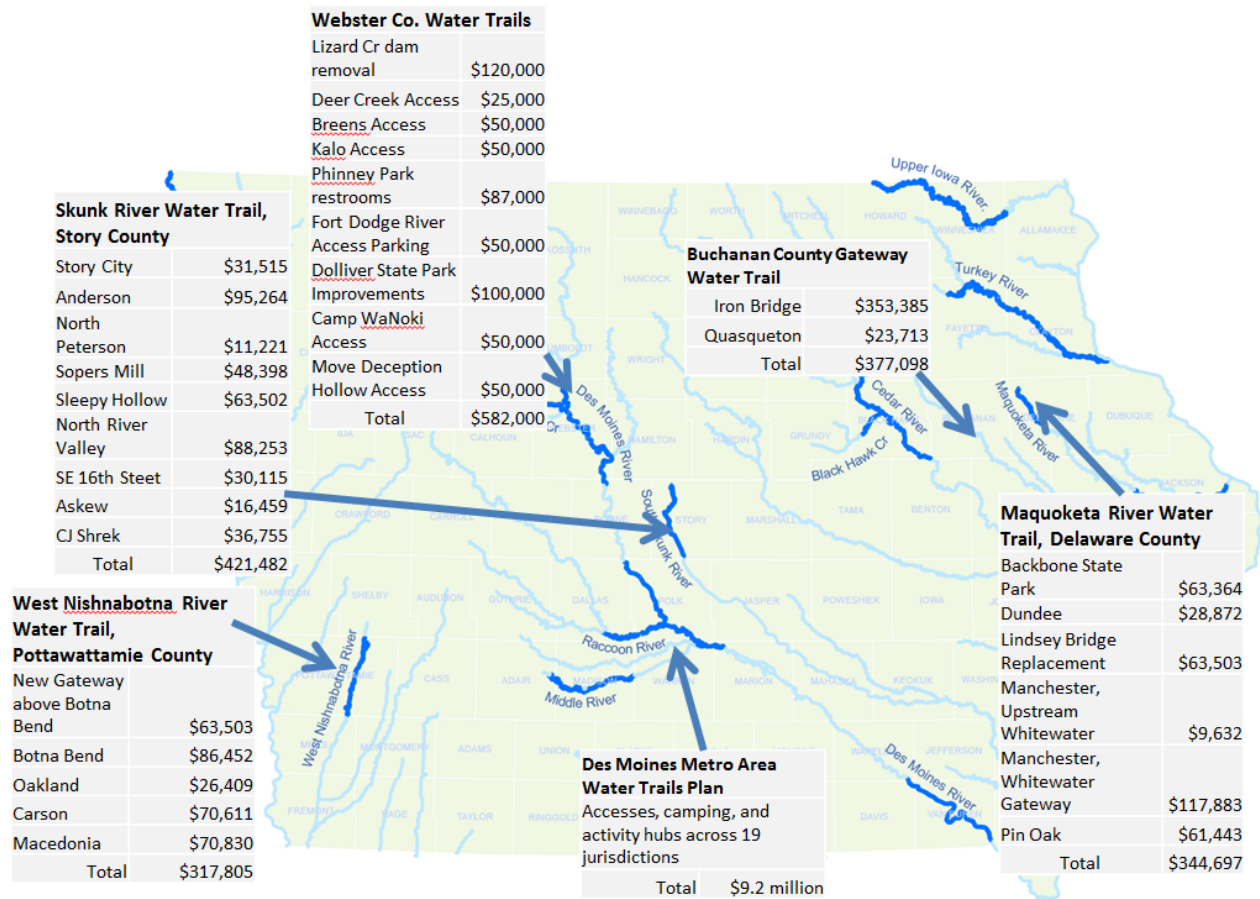
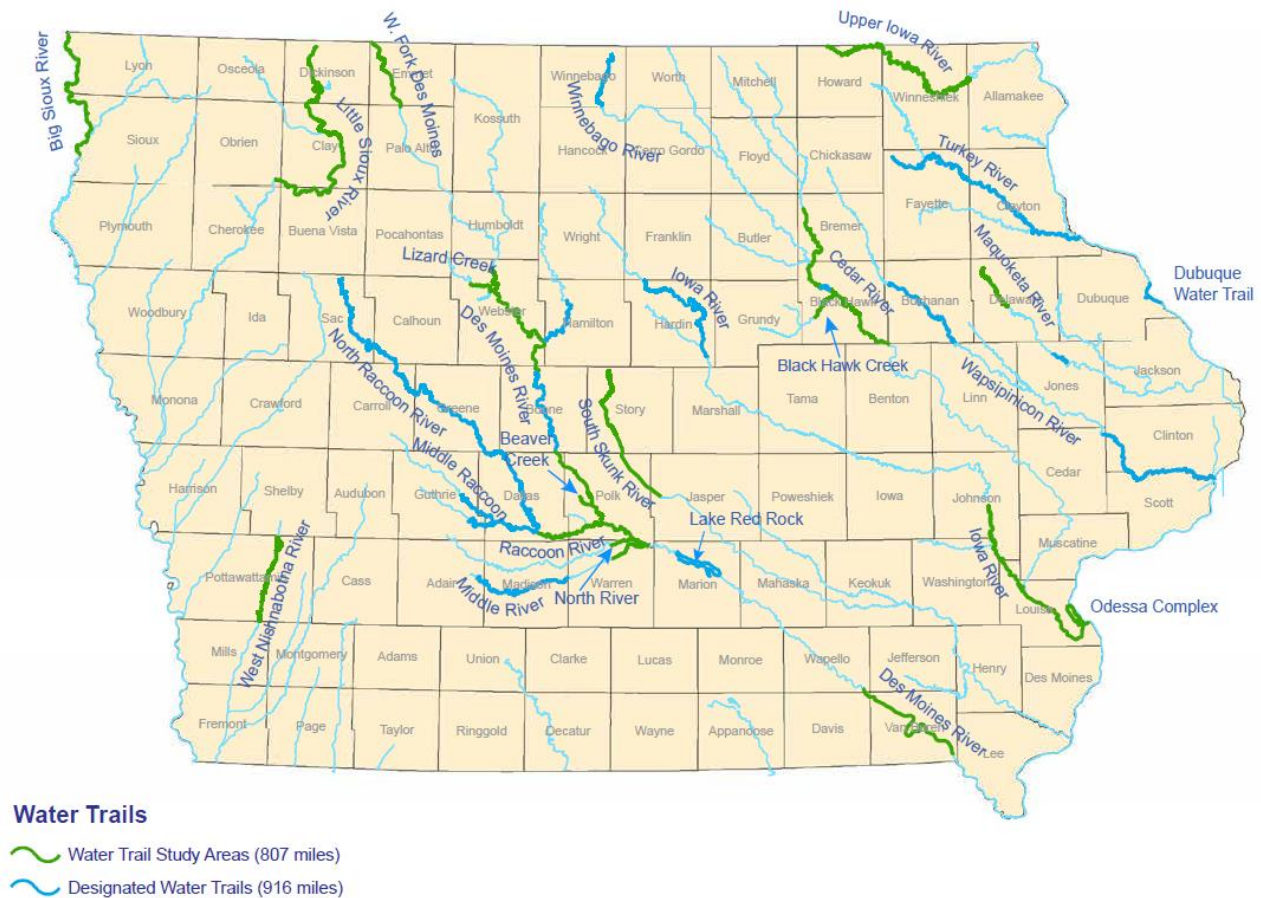


Table 9 Water Trails & Dam Safety Status At A Glance

	2006	2017
Total number of individual water trails with state designation, to date	0	24
Miles of water trails designated	0	931
Miles of water trail study areas	0	807
Number of low-head dams with warning signs	2	44
Number of portage trails around low-head dams completed, to date	2	32
Number of low-head dams modified or removed for safety purposes, to date	0	19

Figure 5 Designated Water Trails and Study Areas



In addition to the 931 miles of state-designated water trails (see Figure 5), the river programs staff and local planning contractors are working with local communities on 807 miles of study areas being master planned – some of those miles are currently designated, and others are not. Some study areas from prior years will not continue forward after better understanding public expectations of state-designated water trails. The program has focused on implementing statewide plans focusing on river management and law enforcement needs, infrastructure needs, maintenance expectations, and comprehensive navigational / warning signage systems based on river mileage. These plans solve address problems, including safety, overcrowding or underuse, jurisdictional issues, and user expectations.



Increasingly, river restoration components are being incorporated into all river programs projects. Examples include stream bank restorations along water trails for safety and aesthetic reasons, site restoration at dam mitigation projects, and incorporating aquatic habitat into navigational access projects for anglers and river species. Restoration skills among program staff are helping with project stability needs in the always changing river setting.



2017 Project Highlight: Planning for Future Demands in Suburban Iowa

Project: Beaver Creek Water Trail Plan

DNR Involvement: Advised and contracted with Des Moines Area MPO for urban planning.

The Beaver Creek water trail plan develop this vision: “Imagine going kayaking with your kids, without leaving the metro. You see great blue herons and kingfishers searching for fish in the water, killdeer and spotted sandpipers probing for insects on the beaches. Needing a short break, you easily pull off on the backside of Terra Lake Park and walk up a path to use a restroom and get a drink. Not much further downstream, a new park near Merle Hay provides a safe place for you to end your trip.”



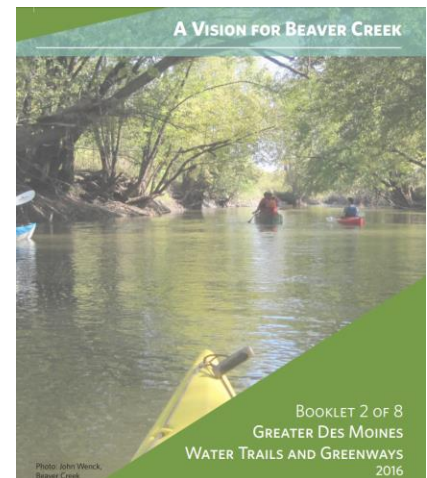
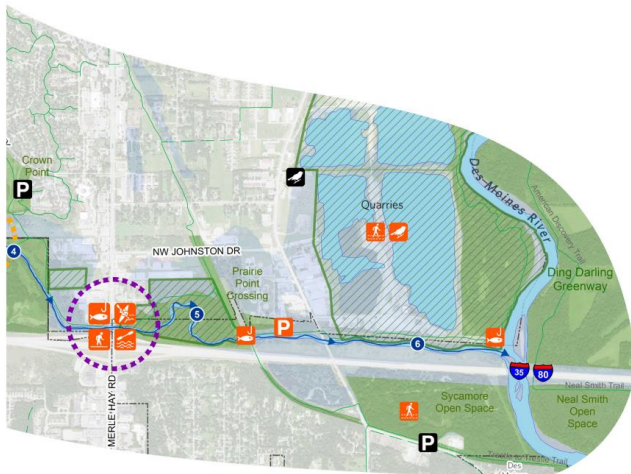
Carry-down access



River-oriented development

Merle Hay Road Gateway Redevelopment Area

A major component of the 2030 Comprehensive Plan is the Merle Hay Road Gateway Redevelopment Area. The Gateway Area is on its way to becoming unlike any other area in the Des Moines metro. The Johnston City Council approved a redevelopment plan that is setting the stage for a dramatic transformation to the front door of the City. The vision includes connections between on-water recreation and a thriving business district, luxury rental properties with access to the trail system, a destination community park with unique amenities such as a skate park, BMX track, dog park, and trailhead, and the potential for much more. The Merle Hay Road Gateway Area would be the jumping off point for recreation of all kinds.



Boating Recreation Infrastructure Maintenance and Management

The Iowa DNR owns or manages infrastructure for boating recreation across the state. ***This infrastructure is integral to safe boating and access to the waters.***

The Law Enforcement Bureau and the Fisheries Bureau do not typically manage land and do not have the staff for this type of maintenance and management. The Wildlife Bureau staff manages and maintains state fishing access areas, boat ramps and docks in cooperation with other bureaus. See the attached Addendum A for the listing of the safe boating access areas managed by the Wildlife Bureau staff. Boating populations, including paddlers, have increased over the years and there is an ever-growing demand for safe, convenient and appropriate boating access areas.



These areas are heavily used for access 9 months of the year, or even more depending on the weather. They require frequent maintenance, especially since most are along river corridors in flood plains. Maintenance and management includes re-rocking areas, cleaning silt from the boat ramps, custodial functions such as removing trash and debris and maintaining signage. In addition to the staff time of the actual work, drive time and driving expenses are included, as Wildlife Headquarters cover 4-6 counties and the areas are remote.

The attached listing of areas represents 105 accesses that qualify for federal boat access funds. There is a detailed federal process to obtain the funds through a formula, and rigorous federal audits on those funds to make sure the boat fees and federal funds are used for the purpose of maintaining safe boat access areas. There are between one and four access ramps for each of the sites that require maintenance. The total cost per access averages out to less than \$5,000 a year in maintenance. The cost of this program is leveraged **75% federal** with 25% boat registration fees.

Table 10 Boat Fee Expenditures for Boating Infrastructure Maintenance & Management (Salaries for labor, contracted services, equipment, signage, publications, etc.)

	Federal	Boat Fees	Total
FY06 (base year)	\$562,055	\$187,351	\$749,406
FY17	\$403,667	\$134,555	\$538,223

NOTE: These federal funds can only be used for this purpose, and would be forfeit if not matched by boat fees.

Iowa's Marine Fuel Tax (MFT) Program

The Iowa DNR Marine Fuel Tax program is not directly tied to the boat fee revenues and expenditures, but it is a complimentary program. MFT has played a vital role in providing recreational boaters new opportunities as well as maintaining public lakes used by boaters.

- Revenue from the excise tax on the sale of motor fuel used in watercraft

The amount of revenue generated by the marine fuel tax legislation equals nine-tenths of one percent of the state excise tax on gas, minus 3% of the marine fuel tax total for administrative costs and minus the amount refunded to commercial fishers based on the gallons of fuel they used.



- MFT funds are leveraged with a variety of sources including Federal Coast Guard, Corps of Engineers Section 1135, State of Iowa Parks and Institutional Roads Fund, and local city and county conservation funds.
- **Annual MFT funding \$4.0 to \$4.4 million.** Funds are often “carried forward”, as they are connected with construction projects that might take multiple years to complete.
- MFT funds are appropriated to the DNR to support and enhance recreational boating. Funded projects may include but are not limited to:
 1. Dredging and renovation of lakes of this state.
 2. Acquisition, development, and maintenance of access to public boating waters.
 3. Development and maintenance of boating facilities and navigation aids.
 4. Administration, operation, and maintenance of recreational boating activities.
 5. Acquisition, development, and maintenance of recreational facilities associated with recreational boating.
- Examples of MFT projects:
 - ◆ Docks and buoys
 - ◆ New lake construction projects
 - ◆ Boat ramp restroom installations (various counties)
- DNR Water Recreation Access Cost-Share Program
 - ◆ Around \$200,000 of MFT funds are available in the form of grants to local cities and counties for boat access facilities to lakes and streams.
 - ◆ Projects are funded 75% state to 25% local match
 - ◆ DNR receives grant requests for 15 to 30 projects and awards amounts usually between \$2,000 and \$50,000

Addendum B is the FY 2017 MFT expense report.

Addendum A--Wildlife Bureau Management and Maintenance of Boating Accesses Areas

Badger Creek Recreation Area	Hardfish Access	Randolph Access
Badger Lake Wildlife Area	Hawthorn Wildlife Area	Rice Lake Wildlife Area
Barringer Slough Wildlife Area	Highway 21 Access	Riverton Wildlife Area
Bartlett Access	Hooper Wildlife Area	Rock Creek Island Preserve
Bay's Branch Wildlife Area	Highway 44 Access	Rock Creek Wildlife Area
Beaver Lake Wildlife Area	Ingham-High Wetland Complex	Round Lake Wildlife Area
Bel Aire Access & Outlet	Iowa Lake-Emmet	Rubio Access
Big Sioux River Complex	Iowa Lake –Osceola	Rush Lake-Palo Alto
Black Hawk Wildlife Area	Iowa Lake Access 3	Selma Access
Blackhawk Bottoms Wildlife Area	Kettleson Hogsback Complex	Silver Lake-Palo Alto
Blue Lake Wildlife Area	Klum Lake Wildlife Area	Silver Lake Complex
Bluebird Access	Koszta Access	Skunk River Wildlife Area
Boone Forks Wildlife Area	Lake Cornelia Access	Snyder Access
Brown's Lake Wildlife Area	Lake Icaria	South Skunk River Access
Center Lake Complex	Lake Icaria Wildlife Area	South Twin Lake
Chenoweth Access	Lake Sugema Wildlife Area	Sweet Marsh
Christopherson Slough Complex	Lennon Mills Wildlife Area	Three Mile Wildlife Area
Cliffland Access	Little Clear Lake	Troy Mills Wildlife Area
Cone Marsh Wildlife Area	Little Sioux Wildlife Area	Tunnel Mill Access
Cutshaw Wildlife Area	Little Storm Lake	Tuttle Lake Wetland Complex
Dan Green Slough	Lizard Lake	Tyson Bend Wildlife Area
Deception Hollow	Meadow Lake	Upper Decatur Bend Wildlife Area
Deer Island Wildlife Area	Middle Decatur Bend Wildlife Area	Upper Iowa River-Iverson Bottoms
Dewey's Pasture Complex	Morse Lake Wildlife Area	Upper Iowa River-Plymouth Rock
Diamond Lake	Mount Ayr Wildlife Area	Upper Iowa River-Seegmiller
Dudgeon Lake Wildlife Area	Odessa Wildlife Area	Upper Iowa River-Upper Dam
Elk Creek Marsh	Olin Access	Virgin Lake
Elk Lake Wetland Complex	Otter Creek Marsh	Weedland Access
English River Access	Otterville Wildlife Area	West Swan Lake
Five Island Lake	Perry Access	White Horse Access
Fogle Lake	Pickerel Lake	Wiese Slough Wildlife Area
Gambril Access	Pictured Rocks Wildlife Area	Williamson Pond
Gitchie Manitou	Pool Slough Wildlife Area	Willow Slough
Goose Lake-Kossuth	Princeton Wildlife Area	Willows Access
Hales Slough	Rand Access	Winnebago Bend Wildlife Area

Addendum B—MFT 2017 Expenditure Report

Project	Federal	MFT	Other	Total
Bowstring Bridge Canoe Access	\$ -	\$ 293,444	\$ -	\$ 293,444
Elk Rock Fish Cleaning Station	\$ -	\$ 7,723	\$ -	\$ 7,723
Fisheries Minor Projects	\$ -	\$ 203,226	\$ -	\$ 203,226
Green Valley State Park/ Law Enforcement Boat Storage Facility	\$ 2,760	\$ 2,760	\$ -	\$ 5,520
Lake Ahquabi State Park/ Law Enforcement Boat Storage Facility	\$ -	\$ 36,100	\$ -	\$ 36,100
Lake Darling-Mid Lake Ramp Repaving	\$ -	\$ 127,308	\$ -	\$ 127,308
Lake Darling-Ramp Parking	\$ -	\$ 5,400	\$ -	\$ 5,400
Law Enforcement Minor Projects	\$ -	\$ 72,756	\$ -	\$ 72,756
Lost Grove Pit Vaults & Cleaning Service Contract	\$ -	\$ 15,700	\$ -	\$ 15,700
Pleasant Creek State Recreation Area Boat Ramps-Federal Boat Access Match	\$ -	\$ 58,075	\$ -	\$ 58,075
Pleasant Creek State Recreation Area Shoreline Protection/Jetties	\$ -	\$ 242,447	\$ -	\$ 242,447
Red Rock-Box Car Access Repair	\$ -	\$ 113,333	\$ -	\$ 113,333
Red Rock Runnells Access Road and Ramp	\$ -	\$ 73,929	\$ -	\$ 73,929
Spirit Lake - Orleans Ramp Restroom Renovation	\$ 125,525	\$ 125,525	\$ -	\$ 251,050
State Parks Minor Projects	\$ -	\$ 444,036	\$ -	\$ 444,036
Statewide Docks & Fish Cleaning Stations/Buoys	\$ -	\$ 38,602	\$ -	\$ 38,602
Statewide Emergency/Miscellaneous	\$ -	\$ 48,623	\$ -	\$ 48,623
Statewide Engineering & Design	\$ -	\$ 341,502	\$ -	\$ 341,502
Statewide Shoreline Access Acq & Dev	\$ -	\$ 2,011,325	\$ -	\$ 2,011,325
Statewide Large Patrol Boats on Reservoirs	\$ 52,219	\$ 52,219	\$ -	\$ 104,438
Statewide Outside Design	\$ -	\$ 2,446	\$ -	\$ 2,446
Statewide Water Recreation Access Cost-Share Grants	\$ -	\$ 46,924	\$ -	\$ 46,924
3-Mile Shoreline Stabilization	\$ -	\$ 783,009	\$ -	\$ 783,009
Twelve Mile Lake Development	\$ -	\$ 2,012	\$ -	\$ 2,012
Vegetation Management	\$ -	\$ 66,444	\$ -	\$ 66,444
Walnut Creek Marsh	\$ -	\$ 12,546	\$ -	\$ 12,546
Water Recreation Resources- Transfer to Ops	\$ -	\$ 418,278	\$ -	\$ 418,278
Water Trails Minor Projects	\$ -	\$ 72,174	\$ -	\$ 72,174
Wildlife Minor Projects	\$ -	\$ 227,032	\$ -	\$ 227,032
Total Marine Fuel Tax	\$ 180,504	\$ 5,944,899	\$ -	\$ 5,944,899